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ANALYSIS OF THE FEDERAL CATALOGING SYSTEM AND COSATI CATALOGING

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This paper is a comparative analysis of the cataloging processes done by the Defense Logistics Services Center (DLSC) and the Defense Technical Information Center (DTIC). The Federal Catalog System used by DLSC was developed for the cataloging of supply items and materiel management; the COSATI System used by DTIC is for the cataloging of technical reports and technical bibliographic data. Major differences were found between the two systems including the materials, the end user, the type of information needed, and the information usage.

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CHARTS AND APPENDICES

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EXECUTIVE SUMMARY

This paper is comparative analysis of the cataloging processes done by the Defense Logistics Services Center (DLSC) and the Defense Technical Information Center (DTIC).

DLSC follows the Federal Cataloging System for supply items. The system was developed specifically for items-of-supply and materiel management. The Federal Supply Cataloging System services manufacturers and supply procurement organizations within the government.

DTIC follows the Committee on Scientific and Technical Information (COSATI) Standard for Descriptive Cataloging of technical reports. The standard was developed to satisfy the needs of large federal information processors such as the Defense Technical Information Center (DTIC), the National Technical Information Service (NTIS), the Department of Energy (DOE), and the National Aeronautics and Space Administration (NASA) for a compatible set of descriptions for bibliographic information.

It was found that there are major differences between the two cataloging systems. The materials to be cataloged by each method are different; the end users that they serve are different; the type of information needed is different, and is used for different purposes.

It was found that:

1. Item Name in the Federal Supply System is expansive where there is no need for an Item Name in COSATI cataloging.

2. Item Identification in the two systems varies greatly. One identifies items-of-supply, the other scientific/technical information. The Commercial and Government Entity (CAGE) Code deals specifically with manufacturers. DTICs requirements are broader.

3. The Classification Schemes differ in that one is equipment oriented and the other is research/information oriented.

4. The Stock Number identifies an item-of-supply within a hierarchical arrangement of items; while an AD accession number is unique to a particular document.

The Federal Supply System deals with things. COSATI Cataloging deals with processes. One is concrete; one is abstract.

Accession For
NTIS GRA&I ☑
DTIC TAB ☐
Unannounced ☐
Justification
Distribution/
Availability Codes
Dist | Avail and/or Special
A-1

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This paper is a comparative analysis of the cataloging processes done by the Defense Logistics Services Center (DLSC) and Defense Technical Information Center (DTIC).

DLSC follows the Federal Cataloging System for supply items.

> "The Federal Cataloging System supports numerous Government Supply functions and management concepts. The system is flexible and can adapt its cataloging process to inherent differences in supply operations and logistics systems. It also serves as a managerial tool to influence uniformity and to establish a common supply language.
> The Federal Catalog System applies to items-of-supply which are repetitively procured, stocked, controlled and subjected to central inventory management, reporting, distribution, re-utilization of disposal in the supply systems of the Army, Navy, Air Force, Marine Corps and other DoD activities, as well as the civil agencies of the U.S. Government."[1]

The system was developed specifically for supply items and materiel management.

DTIC follows the Committee on Scientific and Technical Information (COSATI) Standard for Descriptive Cataloging of technical reports. The standard was developed to satisfy the needs of large federal information processors, such as the Defense Technical Information Center (DTIC), the National Technical Information Service (NTIS), the Department of Energy (DOE) and the National Aeronautics and Space Administration (NASA) for a compatible set of descriptions for bibliographic information.

> "This Standard is well established as a tool for libraries that catalog technical reports and other documents, as well as for the abstracting and indexing services that organize documents into a variety of classifications. It has proved particularly useful to those who need to describe the internal substance or content of a multidisciplinary report which will be used by such diverse groups as researchers, lawyers, program managers, and information specialists."[2]

The standard was originally developed in 1966, and revised in 1977. Consideration had been given to such alternatives as the Anglo-American Cataloging Rules. However, DTIC decided to continue using the COSATI Standard "because it meets the unique requirements of technical report

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literature;" was developed specifically for the cataloging of technical reports; and is the basis of the on-line files of DTIC and NTIS and is used for large files in agencies such as the EPA (Environmental Protection Agency).[3]

In this evaluation, it is important to keep in mind who the "end user" is. The Federal Supply Cataloging System services manufacturers and supply procurement organizations within the government. The COSATI System services a diverse group of engineers, research scientists and information managers. The comparsion between these two systems will proceed along the lines of item identification established in the Federal Cataloging System. The following elements will be analyzed in each system: (1) item name; (2) item identification; (3) item classification; (4) the Federal Supply Codes for Manufacturers (FSCM); (5) stock number. The terminology varies from one system to another but there are parallel elements that can be established. For example, the FSCM codes parallel the codes in the Source Header List and serve a similar purpose.

Charts comparing the above elements are provided for an overview of the text.

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Item Name

Federal Catalog System

"The initial step in establishing the characteristics of an item-of-supply is selecting a name that answers the questions 'What is it?'" A single name is established for each item-of-supply. Item names include part names; a basic name (e.g., chair); and an Approved Item Name (AIN) by the Directorate of Cataloging, DLSC as the official designation for an item-of-supply; a colloquial name (e.g., baker's cap--see CAP, FOOD HANDLER'S); and Item Name Codes (INC-a 5 position, all numeric code, e.g., 29204 for candy). There are approximately 30,500 uniform item names currently used by the Federal Catalog System. These are Approved Item Names (AINs) and are published in the Federal Item Name Directory (FIND).[4]

COSATI Cataloging

There are no parallel data elements in COSATI cataloging to the Federal Catalog System Item Name. In supply, it is necessary to identify a specific part, object or piece of equipment. In processing technical reports, the product is information that encompasses theory, concepts and technical information/data. The title is not an item name because it does not encompass the total content of a technical report; an item name in supply describes a specific object or piece of equipment. Similarly, the AD-number assigned to each technical report in COSATI Cataloging does not apply. An item name includes many objects in a group (e.g., BOLT, MACHINE); an AD-number is assigned for the retrieval of one specific technical report.

See Chart 1, p. 4.

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ITEM NAME - What is it?

DLSC	DTIC
Part Name	No Parallel Data Element
Basic Name (eg. Chair)	No Parallel Data Element
AIN (Approved Item Name)-the name selected and delimited to establish a basic concept of the item-of-supply to which the item belongs and with which it should be compared, can be the basic name with modifiers. eg., CAP, FOOD HANDLER'S	No Parallel Data Element
Colloquial Name (baker's cap), an item-of-supply for which an AIN has been developed eg., baker's cap--see CAP, FOOD HANDLER'S	No Parallel Data Element
INC (Item Name Code)-a 5 digit numeric code eg., 29204 for candy	No Parallel Data Element

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Item Identification

Federal Catalog System

The characteristics of an item-of-supply are established by describing its physical and functional attributes. Items-of-supply are identified (described) based upon the availability of descriptive characteristics and/or through reference (part) numbers.

The descriptive method (DM) requires an Approved Item Name (AIN) and the Federal Item Identification Guide (FIIG) designation. The FIIG contains a series of requirements pertaining to the technical characteristics necessary to describe a particular item of supply. Along with the description, the Federal Supply Code for Manufacturers (FSCM), the identifying part number(s) and management data are recorded for each item of supply.[5]

The reference method (RM) relies on reference to the manufacturer's part numbers. The RM method is used in specific commodity areas where descriptive characteristics are not useful or are unavailable. In such cases, the RM method is used along with the Federal Supply Code for Manufacturer (FSCM-Manufacturers name and address), the part number and related management data for the item-of-supply. There are also combinations of Descriptive Methodology and Reference Methodology that are used based on the item-of-supply being cataloged.[6]

Manufacturer's technical data (part numbers, design control references, engineering drawings, specifications, standards, etc.) are required for accurate and complete identification as item-of-supply. Manufacturer's data uniform codes are used to designate complete name and addresses of each

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manufacturer. The codes are non-significant (serially-assigned) five position designations. The United States and Canada FSCMS are numeric (eg., 56789) and the NATO Supply Codes for Manufacturers (NSCMS) are alphanumeric (eg., G5678).

EXAMPLE: FEDERAL SUPPLY CODES FOR MANUFACTURERS (FSCM)

00014 ABBOTT BALL CO 20 RAILROAD AVE HARTFORD CT 06110

FSCM Manufacturer and Address

Item identification also includes such codes as the Department of Defense Ammunitions Code (DoDAC). The DoDAC is a nine position, semi-significant, alphanumeric designation that is divided in two four - character parts separated by a hyphen. The first four numbers indicate the Federal Supply Classification (FSC, Class. The second part is the Department of Defense Identification Code (DoDIC) that consists of a letter and three numbers or two letters and two numbers.[7]

EXAMPLE: DEPARTMENT OF DEFENSE AMMUNITION CODE (DoDAC)

1320 - D548 PROJECTILE, 155 MILLIMETER: SMOKE. HC.
FSC DoDIC F/HOWITZER

DoDAC Generic Description

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Item Identification

COSATI Cataloging

The purpose of descriptive cataloging is to uniquely describe an item and distinguish it from other similar items and to promote a set of data that can be used to retrieve items (or data about items) based on one or more attributes.

Descriptive cataloging at the DTIC consists of identifying and recording all the necessary bibliographic data from a document to provide a meaningful picture of that document to users of DTIC publications, the Government Reports Announcements and Index (GRA&I), the Department of Defense RDT&E On-Line System (DROLS), and data bases carrying unclassified, unlimited (U) DTIC citations.[8]

In compliance with COSATI cataloging guidelines specific information/data elements are extracted from the document for cataloging. This information is put into specific data fields for on-line and off-line retrieval. This data provides the user with the skeletal information they need in order to develop search strategies, retrieve similar documents, gain ordering information, catalog their in-house material, index like materials, and develop bibliographies.

The bibliographic data includes title classification, descriptive note, author, date, regrade date, pagination, report numbers, contract numbers, projects, tasks, monitor acronyms, monitor series, report classification, supplementary distribution/availability statements, descriptors, identifiers, abstracts, inventory (document count), index annotation, distribution/availability codes, serial number (F-final report, S-summary report, A-annual

report), corporate author source code, special code, regrade code, classified by statements and declassification on statements. Not every document has all bibliographic data elements. The information selected for entry in each cataloging field must be standardized in content and format to ensure retrieval capability.

See Chart 2, p. 9.

DLSC	DTIC
Descriptive Method (DM)-describes physical, mechanical, electrical, chemical, material, dimensional and performance data	1. Descriptive Note (Field 9) Short phrase that identifies the type of report. It may be documentary in nature, or it may relate to the serial number and/or date. 2. Pagination (Field 12) 3. Supplementary Note (Field 21) used to enter statements of information about the report that are not included elsewhere in the cataloging, e.g., Revision of report dated 5 May 83, AD-A095 123 4. Serial Number (Field 34) a modified version of information in field 9 and 6 (title); identifies the kind of report - Final, Annual or Summary
Reference Method (RM)-describes part or reference numbers and technical data-blueprints, drawings, specifications, standards, etc	1. Supplementary Note (Field 21) would include any information about the report that is not included elsewhere in the cataloging, e.g. Original contains color plates: All DTIC reproductions will be in black and white
Combination DM and RM	See above
Manufacturers Technical Data-part number design control references, engineering drawings, specifications, standards	No Parallel Data Element
Manufacturers Part and Drawing Numbering System	No Parallel Data Element
Federal Supply Codes for Manufacturing (FSCM) a five digit code that identifies the manufacturer of the item-of-supply and address	1. Corporate Author Source Code (Field 33) the six digit code identifying who was responsible for the Technical Report (who performed the research)
NATO Supply Codes for Manufacturers (NSCM) a five digit code that identifies the manufacturer of the item-of-supply and their address when not located in the United States or Canada	1. Corporate Author Source Code (Field 33) the six digit code identifying who was responsible for the Technical Report (who performed the research)
Department of Defense Ammunition Code (DoDAC)	No Parallel Data Element
No Parallel Data Element	Title
No Parallel Data Element	Author
No Parallel Data Element	Report Number
No Parallel Data Element	Contract Number
No Parallel Data Element	Project Number
No Parallel Data Element	Task Number
No Parallel Data Element	Monitor Acronym
No Parallel Data Element	Monitor Series
No Parallel Data Element	Report Classification
No Parallel Data Element	Distribution/Availability Statement
No Parallel Data Element	Descriptors
No Parallel Data Element	Identifiers
No Parallel Data Element	Abstract
No Parallel Data Element	Inventory (original document count)
No Parallel Data Element	Index Annotation
No Parallel Data Element	Distribution/Availability Code
No Parallel Data Element	Serial Number (Annual, Final, Summary)
No Parallel Data Element	Special Code
No Parallel Data Element	Regrade Code
No Parallel Data Element	Classified by statement
No Parallel Data Element	Declassification statement

Item Classification

Federal Catalog System

Each item-of-supply that is identified in the Federal Cataloging System is assigned a unique four digit class. An item is classified by either "What it is" (bolts) or "Where it fits" (typewriter platen with the typewriter). The Federal Supply Classification provides, by specific definition, uniform commodity, groups and classes. The Classification groups include 78 major families known as FSC Groups or FSGs. The 78 groups are assigned a two-digit code. The Classification classes include 619 classes designated by adding a two-digit code to the FSC Group Code—making a four digit code classification (See Appendix A).[9]

Example: FSC Group 53 - Hardware and Abrasive, is divided into FSC Classes as follows:

Class 5305 - Screws
Class 5306 - Bolts
Class 5307 - Studs
Class 5310 - Nuts and Washers
Class 5315 - Nails, Keys and Pins
Class 5320 - Rivets
Class 5325 - Fastening Devices
Class 5330 - Packing and Gasket Material
Class 5340 - Miscellaneous Hardware
Class 5345 - Disks, Stones and Abrasives
Class 5350 - Abrasive Material
Class 5355 - Knobs and Pointers
Class 5360 - Coil, Flat and Wire Springs
Class 5365 - Rings, Shims, and Spacers

"The Federal Supply Classification (FSC) and its indexes have been developed and adopted by the Office of the Secretary of Defense for use in classifying items of supply identified under the Federal Cataloging Program. The FSC is a commodity classification

designed to serve the functions of supply and is sufficiently comprehensive in scope to permit classification of all items of personal property."[10]

COSATI Cataloging

The COSATI Subject Category List (DoD-Modified) provides a basis for the subject grouping of scientific and technical reports for announcement and distribution purposes.

> "This differs from the Federal Supply Classification Cataloging Handbook which is a commodity classification scheme for supply items identified under the Federal Cataloging Program."[11]

The Category list consists of 22 broad subject fields and 188 narrower groups. Scope notes indicate the coverage of each group and gives cross references to related groups. The field assignment consists of a two digit numeric code and the group assignment another two digit numeric designation, (eg. 1507 is the field and group for Military operations, strategy and tactics; if further specificity is needed some groups have sub-elements, eg. 1503.1 is Anti-Missile Defense) (See Appendix B).

In an analysis of the two classification schemes, major differences were found. The Federal Cataloging System is meant specifically for items-of-supply. There are no groups or classes for the broader needs of a research oriented user community. For example, in the Federal Catalog System there are classes for weapons, but not for weapons effects; classes for training devices, not training methods; classes for military equipment not doctrine and strategy; classes for medical equipment, not the practice of clinical medicine. There is no pigeonhole for air pollution, psychology, mathematical science, physics, social science, the practice of biological and medical sciences, earth science and oceanographic research, military science, mechanical, industrial, civil and marine engineering, research methodology. There are pigeonholes for the equipment associated with the practice/mechanical aspects of the cited sciences. The COSATI list deals mainly with abstract subjects; the Federal Catalog System deals only with concrete items.

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there is a sharp distinction between a classification system for items-of-supply and a categorization system for information.

In the Federal Supply Classification (FSC) each class covers "a relatively homogeneous area of commodities, in respect to their physical or performance characteristics, or in the respect that the items included therein are such as are usually requisitioned or issued together".[13] For example, there can be thousands of bolts with the same design/structural specifications assigned to FSC 5306.

In the COSATI Categorization Scheme, one technical report can be assigned several fields and groups depending on what the scope and content of the report is, why it was written and its application. For example, a technical report on Personal Selection, Training and Evaluation would be assigned COSATI Field and Group 5/9. But, the information might also encompass other disciplines such as Administration and Management (5/1), Pyschology (5/10), Sociology (5/11), and perhaps fields in the Biological and Medical Sciences (Field 6) and/or Military Science (Field 15), etc. Each technical report is unique in content and scope and has to be categorized based on that content to meet the requirements of a specialized user community.

See Chart 3, page 13.

Scheme name: Federal Supply Classification
78 groups
616 classes

Group no.

Weapons
11 Nuclear Ordnance
12 Fire Control Equipment
13 Ammunition and Explosives
14 Guided Missiles
15 Aircraft and Airframe Structural Components
16 Aircraft Components and Accessories
17 Aircraft Launching, Landing, and Ground Handling Equipment
18 Space Vehicles
19 Ships, Small Craft, Pontoons, and Floating Docks
20 Ship and Marine Equipment
21 Unassigned
22 Railway Equipment
23 Ground Effect Vehicles, Motor Vehicles, Trailers, and Cycles
24 Tractors
25 Vehicular Equipment Components
26 Tires and Tubes
27 Unassigned
28 Engines, Turbines, and Components
29 Engine Accessories
30 Mechanical Power Transmission Equipment
31 Bearings
32 Woodworking Machinery and Equipment
33 Unassigned
34 Metalworking Machinery
35 Service and Trade Equipment
36 Special Industry Machinery
37 Agricultural Machinery and Equipment
38 Construction, Mining, Excavating, and Highway Maintenance Equipment
39 Materials Handling Equipment
40 Rope, Cable, Chain, and Fittings
41 Refrigeration, Air Conditioning, and Air Circulation Equipment
42 Fire Fighting, Rescue, and Safety Equipment
43 Pumps and Compressors
44 Furnace, Steam Plant, and Drying Equipment; and Nuclear Reactors
45 Plumbing, Heating, and Sanitation Equipment
46 Water Purification and Sewage Treatment Equipment
47 Pipe, Tubing, Hose, and Fittings
48 Valves
49 Maintenance and Repair Shop Equipment
50 Unassigned
51 Hand Tools
52 Measuring Tools
53 Hardware and Abrasives
54 Prefabricated Structures and Scaffolding
55 Lumber, Millwork, Plywood, and Veneer
56 Construction and Building Materials
57 Unassigned
58 Communication, Detection, and Coherent Radiation Equipment
59 Electrical and Electronic Equipment Components
60 Fiber Optics Materials, Components, Assemblies, and Accessories
61 Electric Wire, and Power and Distribution Equipment
62 Lighting Fixtures and Lamps
63 Alarm, Signal, and Security Detection Systems
64 Unassigned
65 Medical, Dental, and Veterinary Equipment and Supplies
66 Instruments and Laboratory Equipment
67 Photographic Equipment
68 Chemicals and Chemical Products
69 Training Aids and Devices
70 General Purpose Automatic Data Processing Equipment (Including Firmware), Software, Supplies and Support Equipment
71 Furniture
72 Household and Commercial Furnishings and Appliances
73 Food Preparation and Serving Equipment
74 Office Machines, Text Processing Systems and Visible Record Equipment
75 Office Supplies and Devices
76 Books, Maps, and Other Publications
77 Musical Instruments, Phonographs, and Home-Type Radios
78 Recreational and Athletic Equipment
79 Cleaning Equipment and Supplies
80 Brushes, Paints, Sealers, and Adhesives
81 Containers, Packaging, and Packing Supplies
82 Unassigned
83 Textiles, Leather, Furs, Apparel and Shoe Findings, Tents and Flags
84 Clothing, Individual Equipment, and Insignia
85 Toiletries
86 Unassigned
87 Agricultural Supplies
88 Live Animals
89 Subsistence
90 Unassigned
91 Fuels, Lubricants, Oils, and Waxes
92 Unassigned
93 Nonmetallic Fabricated Materials
94 Nonmetallic Crude Materials
95 Metal Bars, Sheets, and Shapes
96 Ores, Minerals, and Their Primary Products
97 Unassigned
98 Unassigned
99 Miscellaneous

**78 established groups

Scheme name: [illegible]
25 fields
251 groups

Field no.

01 Aviation Technology
02 Agriculture
03 Astronomy and Astrophysics
04 Atmospheric Sciences
05 Behavioral and Social Sciences
06 Biological and Medical Sciences
07 Chemistry
08 Earth Sciences and Oceanography
09 Electrotechnology and Fluidics
10 Power Production and Energy Conversion (Nonpropulsive)
11 Materials
12 Mathematical and Computer Sciences
13 Mechanical, Industrial, Civil and Marine Engineering
14 Test Equipment, Research Facilities and Reprography
15 Military Sciences
16 Guided Missile Technology
17 Navigation, Detection and Countermeasures
18 Nuclear Science and Technology
19 Ordnance
20 Physics
21 Propulsion, Engines and Fuels
22 Space Technology
23 Biotechnology
24 Environmental Pollution and Control
25 Communications

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The Federal Supply Code for Manufacturers and The Source Header List.

In January 1985, the DTIC Cataloging Branch received a microfiche copy of the Federal Supply Catalog cataloging handbook, Commercial and Government Entity Code (H4/H8) from DLSC-JBC. DLSC-JBC did a random sample of 17 commercial or private activities and found that these activities have a DTIC Source Code as well as a CAGE Code. They stated that this sample confirmed a certain amount of overlap between the two code assignment systems. Since some similarity was found, it was decided to analyze in greater depth the suggested overlapping by reviewing a larger sampling in the two systems. A study of the letter A showed 50 corporate author sources between Aa and Adj in the Source Header List that are not in the CAGE Code (H4/H8). Another sample was taken from N-Nat. There are over 100 corporate author sources in the Source Header List that are not in the CAGE Code (H4/H8). For example:

1. Under the National Academy of Sciences, 49 sources found in the DTIC Source Header List are not in the CAGE code.

2. Under the National Aeronautics and Space Administration, there were 18 in the DTIC Source Header List. The CAGE code listed only 4.

3. Under the National Bureau of Standards, Boulder, CO. the DTIC Source Header List has 14 sources listed. None of these are in the CAGE code.

4. Under the National Bureau of Standards, Gaithersburg, MD. the DTIC Source Header List has 6 sources; the CAGE code has none.

5. Under the National Bureau of Standards, Washington, DC. the DTIC Source Header List has 50 sources listed. The CAGE code has only 2.

The majority of matches are manufacturers. However, the DTIC Source Header List also covers:

1. Research Facilities (Including Foreign)
2. Military Test Sites
3. Military Research Facilities
4. Government Organizations
5. Educational Institutions (Including Foreign)

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It is clear that the scope of the DTIC Source Header List is broader than the scope of the CAGE codes since the subject matter of the technical reports processed by DTIC is wide ranging. It is also necessary for DTIC to maintain codes for sources that may no longer be active (eg., a corporation changes location or merges with another company), since DTIC often receives technical reports that reflect the former name of an organization.

See Chart 4, p. 16-19.

SOURCE CODE	CODE
Aberdeen Proving Ground, MD.	001500
Aberden Proving Ground, MD. Materiel Testing Directorate.	403884
Academy for Contemporary Problems, Columbus, OH.	395176
Academy for Educational Development, Inc., New York.	407851
Academy for Interscience Methodology, Chicago, IL.	001700
Academy for State and Local Government, Washington, DC.	397495
Academy of Applied Science, Inc., Boston, MA.	393560
Academy of Health Sciences (Army), Fort Sam Houston, TX.	391261
Academy of Health Sciences (Army), Fort Sam Houston, TX. Dental Studies Office.	412643
Academy of Health Sciences (Army), Fort Sam Houston, TX. Health Care Studies Div.	408688
Academy of Natural Sciences of Philadelphia, PA.	001800
Academy of Natural Sciences of Philadephia, PA. Div. of Limnology and Ecology.	412251
Accreditation Board for Engineering and Technology, New York.	395653
Acoustic and Pressure Check Range Div. (Navy), Fort Story, VA.	403719
Acoustical Society of America, New York.	407744
Acres American Inc., Buffalo, New York.	410835
Actuarial Research Corp., Falls Church, VA.	393354
Acumenics Research and Technology Inc., Bethesda, MD.	413427
ACV Evaluation Unit, San Francisco, CA.	407104
AD Hoc Group for Coordination in Planning a Natural Aviation Meteorological System, Washington, DC.	003150
ADA Joint Program Office, Arlington, VA.	397026
Adams County Health Dept., Quincy, IL.	387744
Adams (Rex), Tularosa, NM.	387156
Adams Super Markets Inc., MA.	394507
Adapt Service, Inc., Reading, MA.	408630
Adaptive Sensors, Inc., Santa Monica, CA.	396305
Adcole Corp., Hanover, NH.	387202
Adcom, Cambridge, MA.	003450
Adcon Corp., Santa Barbara, CA.	407678
Addington Labs., Inc., Santa Clara, CA.	391316
Addis Translations International, Woodside, CA.	391390
Addison Wesley Publishing Co., Inc., Indianapolis, IN.	396200
Adelphi Research Center, Mineola, NY.	003600
Adelphi Univ., Garden City NY.	003620
Adelphi Univ., Garden City, NY., Dept. of Graduate Mathematics.	400462
Adelphi Univ., Garden City, NY. Dept. of Graduate Psychology.	388033
Adelphi Univ., Garden City, NY. Dept. of Mathematics.	405017
Adina Corp., Lexington, KY.	390094

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SOURCE CODE	CODE
Adhesive and Sealant Council, Inc., Arlington, VA.	395694
Adjutant General, Washington, DC. Headquarters Administrative Systems Directorate.	411920
Adjutant General Center, Suitland MD. Declassification Operations Branch.	412993
Adjutant General Center, Washington, DC.	409196
Adjutant General Center, Washington, DC. Administrative Management Directorate.	411520
Adjutant General Center, Washington, DC. Education Directorate.	409687
Adjutant General Center, Washington, DC. Plans and Operations Directorate.	410425
Adjutant General Center, Washington, DC. Postal Directorate.	409492
Adjutant General's Office (Army), Washington, DC.	003650

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Source Codes Found in the Source Header List and not in the CAGE Codes. N-Nat

SOURCE CODE	CODE
Nadrk Industrial Inc., Canoga Park, CA.	388516
Nagler Helicopter Co., Glen Cove, NY.	239300
Najarian Thatcher and Associates, Inc., Closter, NJ.	412515
Nalco Environmental Sciences, Northbrook, IL.	410601
Nalesnik Associates, Inc., Washington, DC.	411680
Nanodata Corp., Williamsville, NY.	393587
Naphthenate Preservatives Inst. Inc., Washington, DC.	239500
Napp, Inc., Austin, TX.	398032
Narcotic and Drug Research, Inc., Brooklyn, NY.	393322
Narmco Research and Development, San Diego, CA.	395343
Nash-Hammond, Inc., City of Industry, CA.	404530
Nash (William A), Amherst, MA.	392789
Nassau Hospital, Mineola, NY.	240050
Nassau Research and Development Associates, Inc., Mineola, NY.	240100
Nathan (Robert R) Associates, Inc., Washington, DC.	407669
National Academy of Engineering, Washington, DC.	388135
National Academy of Engineering, Washington, DC. Aeronautics and Space Engineering Board.	408575
National Academy of Engineering, Washington, DC. Navy Environmental Protection Program Study Group.	408724
National Academy of Public Administration, Washington, DC.	388830

SOURCE CODE	CODE
National Academy of Sciences, Washington, DC.	404853
National Aernautics and Space Administration, Washington, DC.	240400
National Airlines, Inc., Miami, FL.	403431
National Airspace System Program Office, Washington, DC.	387671
National Analysis of Health Bethesda MD. Div of Computer Research and Technology.	388003
National Archives and Records Service, Kansas City, MO.	393245
National Archives and Records Service, Washington, DC. Office of the Federal Register.	412824
National Association of Corrosion Engineers, Houston, TX.	392609
National Association of State Boating Law Administrators, Washington, DC.	412331
National Aviation Facilities Experimental Center, Atlantic City, NJ.	240550
National Battery Co., Depew, NY. Research Labs.	240590
National Biomedical Research Foundation, Washington, DC.	240650
National Board of Fire Underwriters, New York.	392460
National Bureau of Economic Research, Cambridge, MA.	393358
National Bureau of Economic Research, New York.	389615
National Bureau of Economic Research, Washington, DC.	409041
National Bureau of Standards, Boulder, CO.	240750
National Bureau of Standards, Gaithersburg, MD.	240800
National Bureau of Standards, Washington, DC.	240800

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SOURCE	CODE
National Cancer Inst., Bethesda, MD.	391923
National Cancer Inst., Bethesda, MD. Lab of Pathology.	408576
National Cancer Inst., East Lansing, MI.	387763
National Canners Association, Berkeley, CA.	240850
National Canners Association, Washington, DC.	240900
National Capitol Systems, Inc., Washington, DC.	394844
National Carbon Co., Lawrenceburg, TN.	241000
National Carbon Co., New York.	241050
National Carbon Co., Parma, OH.	241070
National Cash Register Co., Hawthorne, CA.	241150
National Cash Register Co., Hawthorne, CA. Electronics Div.	400881
National Cash Register Co., Miamisburg, OH. Microelectronics Div.	392707
National Catholic School of Social Service, Washington, DC.	406015
National Center for Atomspheric Research, Washington, DC.	241200
National Center for Chronic Disease, Arlington, VA.	388357
National Center for Devices and Radiological Health, Rockville, MD.	393554
National Center for Drugs and Biologics, Rockville, MD. Anti-Infective Drug Product Div.	414007
National Center for Earthquake Research, Menlo Park, CA.	401773
National Center for Energy Management and Power, Philadelphia, PA.	408592
National Center for Health Services Research, Rockville, MD.	396041
National Center for Health Services Research and Development, Rockville, MD.	389642

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Stock Number

Federal Supply Cataloging

Another step in the process of item identification is the assignment of a stock number to an item-of-supply. Each item-of-supply in the Federal Cataloging System is assigned a unique 13 digit stock number called a National/NATO Stock Number (NSN). The NSN is used in all U.S. Government materiel management functions.

EXAMPLE:

NATIONAL STOCK NUMBER (NSN)

5305-C1-345-6789

FSC NCB "Item Identification Number"

U S National Item Identification Number

The first four digits show the Federal Supply Classification (FSC). The FSC relates like items-of-supply. The next two digits show the National Codification Bureau (NCB) Code. This code identifies which NCB assigned the seven digit item identification number. The remaining seven digits are the item identification number. The last nine digits are the official U.S. National Item Identification Number (NIIN).

An item of supply produced by a NATO member nation other than the U.S. is identified by the designation of a NATO Stock Number (NSN). The NATO number is broken down in the following manner.[14]

EXAMPLE:

NATO STOCK NUMBER (NSN)

5305-12-999-9999

NATO SUPPLY CLASSIFICATION CODE

NATO CODE FOR NCBs

NATIONAL ITEM IDENTIFICATION NUMBER

NATO ITEM IDENTIFICATION CODE

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Stock Number

COSATI Cataloging

The AD-accession number is an alphanumeric number which is used to identify a specific document. The AD number is assigned for purposes of control by DTIC. The document can be identified and retrieved on-line by searching the AD number. The accession number consists of three letters followed by six digits.

eg. AD-A000 001 and up - unclassified/unlimited

AD-B000 001 and up - unclassified/limited

AD-C000 001 and up - classified documents - secret, confidential and restricted

AD-D000 001 - AD-D094 999 - patents and patent applications

AD-D100 000 - AD-D899 999 - Information Analysis Centers (IAC)

AD-E000 001 and up - Shared Bibliographic Input Sites (SBIN)

AD-F000 001 and up - Shared Bibliographic Input Sites (SBIN)

AD-P000 001 and up - compilation reports

Unannounced documents are assigned numbers in the 900 000 series in the A, B, C ranges and specific numbers have been reserved for special processing. AD numbers are assigned to documents in the order in which they are processed by the cataloging department. The AD accession number assignment is straight forward and a cataloger can assign numbers with minimum training.

Conclusion

In this analysis, the Federal Supply Cataloging system is compared to the COSATI Cataloging system for technical reports. The materials to be cataloged by each method are different; the end users that they serve are different; the type of information needed is different, and is used for different purposes. Therefore, there are major differences between the two cataloging systems. Each has been developed for a unique need. There are many cataloging systems in existence for all types of materials/subjects. In evaluating a particular cataloging or classification scheme, it is necessary to consider the material to be cataloged, what information must be retrieved, who the end user is, and what the information will be used for.

Since the Defense Logistics Supply Center deals specifically with Logistics, it is understandable that the Federal Cataloging System is only concerned with that area, and that very specific subject breakdowns are necessary. Thus all the groups in that system reflect logistics related material (eg. equipment). DTIC services a wider community therefore requiring a broader more diverse cataloging/classification system in order to satisfy their needed requirements. The COSATI Field and Group 15/5 covers DTIC needs adequately for Logistics:

15 Military Sciences

05	Logistics	Procurement, storage, distribution, and reclamation of equipment and supplies. Design and testing of personal equipment, such as clothing, field gear, etc. Transportation. Industrial mobilization. For protective clothing, see 06 17 Protective Equipment.[16]

It was also found that:

1. Item Name in the Federal Supply System is expansive where there is no need for an Item Name in COSATI Cataloging.

2. Item Identification in the two systems vary greatly. One identifies items of supply, the other scientific/technical information. The CAGE code deals specifically with manufacturers. DTIC requirements are broader.

3. The Classification Schemes differ in that one is equipment oriented and the other is research/information oriented.

4. The Stock Number identifies an item-of-supply within a hierarchical arrangement of items; while an AD accession number is unique to a particular document.

The Federal Supply System deals with things. The COSATI Systems deals with processes. One is concrete; one is abstract.

FOOTNOTES

[1] Defense Logistics Services Center, Overview of the Federal Cataloging Handbook (Battle Creek: Defense Logistics Services Center, 1985), p. 2.

[2] Committee on Information Hang-ups Working Group Updating COSATI, Guidelines for Descriptive Cataloging of Reports - A Revision of COSATI Standard for Descriptive Cataloging of Government Scientific and Technical Reports (Washington: Committee on Information Hang-ups Working Group on Updating COSATI, 1978), p. 3.

[3] Ibid.

[4] Defense Logistics Services Center, Overview of the Federal Cataloging Handbook (Battle Creek: Defense Logistics Services Center, 1985), p. 6-8.

[5] Ibid., p. 8.

[6] Ibid., p. 9.

[7] Ibid., p. 11.

[8] Defense Technical Information Center, Cataloging Guidelines (Alexandria: Defense Technical Information Center, 1984), p. v.

[9] Defense Logistics Services Center, Overview of the Federal Cataloging Handbook (Battle Creek: Defense: Logistics Services Center, 1985), p. 13.

[10] Defense Logistics Services Center, Federal Supply Classification, Part 1, Groups and Classes (Battle Creek: Defense Logistics Services Center, 1984), p. iii.

[11] Defense Technical Information Center, Subject Categorization Guide for Defense Science and Technology (draft). (Alexandria: Defense Technical Information Center, 1984), p. iii.

[12] Defense Documentation Center, COSATI Subject Category List (DoD-Modified) (Alexandria: Defense Documentation Center, 1965), p. iii.

[13] Defense Logistics Services Center, Federal Supply Classification, Part 1, Groups and Classes (Battle Creek: Defense Logistics Service Center, 1984), p. iii.

[14] Defense Logistics Services Center, Overview of the Federal Cataloging Handbook (Battle Creek: Defense Logistics Services Center, 1985), p. 13-14.

[15] Defense Technical Information Center, Cataloging Guidelines (Alexandria: Defense Technical Information Center, 1984), p. 1-2.

[16] Defense Documentation Center, COSATI Subject Category List (DoD-Modified) (Alexandria: Defense Documentation Center, 1965), p. 22.

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Committe on Information Hang-ups Working Group on Updating COSATI. Guidelines for Descriptive Cataloging of Reports - A Revision of COSATI Standard for Descriptive Cataloging of Government and Technical Reports. Washington: Committee on Information Hang-ups Working Group on Updating COSATI, 1978.

Defense Documentation Center. COSATI Subject Category List (DoD-Modified). Alexandria: Defense Documentation Center, 1965.

Defense Logistics Services Center. Federal Supply Classification, Part 1, Groups and Classes. Battle Creek: Defense Logistics Services Center, 1984.

Defense Logistics Services Center. Federal Supply Code for Manufacturers (United States and Canada). Battle Creek: Defense Logistics Services Center, 1984.

Defense Logistics Services Center. Overview of the Federal Catalog System. Battle Creek: Defense Logistics Services Center, 1985.

Defense Technical Information Center. Cataloging Guidelines. Alexandria: Defense Technical Information Center, 1984.

Defense Technical Information Center. Subject Categorization Guide for Defense Science and Technology (draft). Alexandria: Defense Technical Information Center, 1984.

Defense Technical Information Center. Source Header List, Vol. 1: A Through K Alexandria: Defense Technical Information Center, 1984.

Defense Technical Information Center. Source Header List, Vol. 2: L Through Z Alexandria: Defense Technical Information Center, 1984.

Excludes Hand Tools.

4960 Space Vehicle Maintenance, Repair, and Checkout Specialized Equipment
Includes Checkout and Test Equipment specially designed for use with Space Vehicles, including Remote Control Systems. *Excludes* Checkout and Test Equipment used with both Guided Missiles and Space Vehicles; Specially designed Internal (built-in) Checkout Equipment for Remote Control Systems; Basic types of Electrical and Electronic Test Instruments, including those specially designed, such as ammeters, ohmmeters, multimeters, and similar instruments, as shown in the indexes to the FSC.

GROUP 51

Hand Tools

5110 Hand Tools, Edged, Nonpowered
Includes Chisels; Files; Pipe Cutters; Rasps; Saws; Screw Plates; Axes; Hatchets; Machetes.

5120 Hand Tools, Nonedged, Nonpowered
Includes Hammers; Picks; Pliers, except pliers for cutting only; Screwdrivers; Shovels; Construction Rakes, Forks and Hoes; Jacks, including Contractors' Jacks; Wrecking Bars; Glue Pots; Blowtorches.
Excludes Craftsman's Measuring Tools; Gardening Rakes, Forks, Hoes, and other Garden Tools.

5130 Hand Tools, Power Driven
Includes Drills; Riveters; Portable Electric Saws; Pneumatic Tools; Abrasive Wheels, Cones, and other Abrasive Attachments for use only on Hand Held Power Tools.

5133 Drill Bits, Counterbores, and Countersinks; Hand and Machine

5136 Taps, Dies, and Collets; Hand and Machine
Excludes Punching, Stamping, and Marking Dies.

5140 Tool and Hardware Boxes

5150 Sets, Kits and Outfits of Hand Tools

GROUP 52

Measuring Tools

5210 Measuring Tools, Craftsmen's
NOTE: This class does not include special inspection gages, which are classified in class 5220.
Includes Calipers; Levels; Micrometers; Plumb Bobs; Precision Tapes; Squares; Angle Gages; Center Gages; Depth Gages; Draw Gages; Drill Point Gages; Fillet and Radius Gages; Glaziers' Gages; Height Gages (Vernier); Planer Gages; Rivet Selector Gages; Saw Tooth Set Gages; Screw Pitch Gages; Surface Gages; Telescoping Gages; Thickness Gages; Tube Bead Gages; Tube Flare Gages; Twist Drill Gages; Twist Drill and Rod Gages; Twist Drill and Tap Gages; Taper-Wire-Thickness Gages; Wire Gages; Tool Setting Planer and Shaper Gages; Gage Blocks.

5220 Inspection Gages and Precision Layout Tools
NOTE: Special inspection gages are included in this class.
Includes Go and Not-Go Gages, including Plug, Ring, Snap, Thread, and Length Gages; Profile Gages; Fixture Gages; Special Inspection Gages.

5280 Sets, Kits, and Outfits of Measuring Tools

GROUP 53

Hardware and Abrasives

5305 Screws

5306 Bolts

5307 Studs

5310 Nuts and Washers
Excludes Thrust Washers.

5315 Nails, Keys, and Pins
Includes Dowel Pins, Metal; Leader Pins; Split Pins; Shafting Keys; Shafting Pins; Spikes, except Railroad; Tacks; Staples, Nonoffice Type; Brads.
Excludes Railroad Spikes.

5320 Rivets

5325 Fastening Devices
Includes Eyelets; Grommets; Aircraft Cowling Fasteners; Textile Fasteners.

5330 Packing and Gasket Materials
Includes General Purpose Oil and Grease Seals and Retainers; Bibb Washers; Oakum; Specialized Bulk Packing and Gasket Materials; Gasket Strip and Tape; Prefabricated Gaskets and Seals designed for a single specific application.

5335 Metal Screening
Includes Insect Screening; Industrial Metal Cloth and Mesh.
Excludes Fencing.

5340 Miscellaneous Hardware
Includes Cabinet Hardware; Casters; Door Closers; Hinges; Locks; Turnbuckles; Casket Hardware; Trunk and Luggage Hardware; Vibration Absorbers and Mounts, Nonhydraulic.
Excludes Marine Hardware.

5345 Disks and Stones, Abrasive
Includes Abrasive Belts and Belting; Hones; Abrasive Wheels, Multiapplication.
Excludes Dental Abrasives; Abrasive Cones, and other Abrasive Attachments for equipment.

5350 Abrasive Materials
Includes Cloth; Papers; Powders; Abrasive Polishing Compounds; Metal Finishing Abrasives; Industrial Diamonds; Diamond Dust; Rouge.

5355 Knobs and Pointers
Includes Knobs, including Calibrated Knobs; Dials, Scale.

5360 Coil, Flat, and Wire Springs
NOTE: Items specifically designed for specific use on or with specific individual types of equipment are classifiable in this class.

5365 Rings, Shims, and Spacers
Includes Externally Threaded Rings; Keyed and Serrated Lock Rings; and Dee Rings; Shim Sets and Assortments; Spacers, Plate, Ring, Sleeve, and Stepped; Spacer Assortments and Sets; Bushings, Machine Thread; Plugs, Machine Thread.
Excludes Piston Rings, Bearing and Bearing Closure Shims; Shim Stock; Electrical Cable Spacers.

GROUP 54

Prefabricated Structures and Scaffolding

5410 Prefabricated and Portable Buildings
NOTE: This class includes air supported structures and those buildings which are prefabricated, transported, and erected or assembled on site.
Includes Prefabricated panels and refrigerated storage shelters.
Excludes Rigid Wall Shelters.

5411 Rigid Wall Shelters
NOTE: This class includes only portable expandable and nonexpandable unitized shelters that are designed to be transported by land, sea, or air. These shelters are complete units that require no specialized set-up equipment and minimum site preparation.
Excludes Fabric wall shelters, air supported structures, refrigerated buildings, cargo containers, and prefabricated semi-permanent buildings/structures.

5420 Bridges, Fixed and Floating
NOTE: This class includes only items specifically designed for specific use on or with fixed or floating bridges.
Includes Special Bridge Erection Equipment; Fixed Bridge Sets; Floating Bridge Sets; Bridge Floats and Pontoons.
Excludes Pontoons and Floating Docks.

5430 Storage Tanks
NOTE: Tanks which are designed for integral use with other equipment within a common housing or on a common base are excluded from this class and should be classified with the equipment with which used.
Includes Assembled and Unassembled Tanks for storage only; Inclosures for Pressure and Vacuum Tanks; Petroleum Bulk Storage Tanks.
Excludes Boiler Drums; Domestic Water Storage Tanks.

5440 Scaffolding Equipment and Concrete Forms
Includes Prefabricated Concrete Placing Forms; Builders' Ladders and Stepladders.
Excludes Chain Ladders; Rope Ladders.

5445 Prefabricated Tower Structures
Includes Power Transmission Towers; Radar Towers; Searchlight Towers; Control Towers; Prefabricated Tower Components, such as Anchor Rails, Tie Rods, Braces, Steps, Guy Assemblies; Specialized Tower Hardware.
Excludes Items of common hardware; Structural shapes not specifically fabricated as components of tower structures.

5450 Miscellaneous Prefabricated Structures
Includes Bleachers; Grandstands.
Excludes Floating Docks.

GROUP 55

Lumber, Millwork, Plywood, and Veneer

5510 Lumber and Related Basic Wood Materials
Includes Dimensional Lumber; Flooring; Mine Timbers; Poles; Railroad Ties; Sawdust; Shavings; Wood Siding; Molding; Special Wood Turnings and Carvings.
Excludes Millwork; Plywood and Veneer.

5520 Millwork
Includes Door Frames; Doors; Window Frames; Window Sashes.
Excludes Molding; Special Wood Turnings and Carvings.

5530 Plywood and Veneer
Includes Plywood and Veneered Panels.

GROUP 56

Construction and Building Materials

5610 Mineral Construction Materials, Bulk
Includes Asphalt; Cinders; Gravel; Lime; Sand; Rough Dimension Stone, including Rubble; Cement; Ballast.
Excludes Block, Shaped; Brick.

5620 Building Glass, Tile, Brick, and Block
Includes Concrete Building Block; Glass Building Block; Cinder Block; Slag Block; Cut Stone; Cut and Polished Stone; Ceramic Floor and Wall Tile; Structural Glass; Architectural Terra Cotta; Concrete Slabs and Grilles.

5630 Pipe and Conduit, Nonmetallic
Includes Concrete Pipe and Conduit; Clay Pipe and Conduit for underground use; Drain Tile; Nonmetallic Pipe Fittings for underground use.
Excludes Nonmetallic Pipe, Conduit, and Fittings for laboratory or electrical use; Hose and Tubing, Flexible Nonmetallic.

5640 Wallboard, Building Paper, and Thermal Insulation Materials
Includes Paper Building Board; Ceiling Board; Gypsum Board; Insulating Board; Plasterboard; Soundproofing Board; Tar Paper; Wallpaper; Mineral Wool; Glass Wool Batts; Pipe Covering.
Excludes Electrical Insulation Materials.

5650 Roofing and Siding Materials
Includes Roofing (all materials), including Sheet Metal; Roofing Felt; Roll Roofing; Roofing Tile; Shingles.
Excludes Tar Paper; Bulk Sheet Metal Roofing and Siding; Wood Siding.

5660 Fencing, Fences, and Gates
Includes Wood and Metal Fences and Gates.

5670 Architectural and Related Metal Products
Includes Door Frames; Fixed Fire Escapes; Gratings; Grilles, Staircases; Window Sash; Gutters; Downspouts.
Excludes Portable Fire Escapes.

5680 Miscellaneous Construction Materials
Includes Expanded Metal Lath; Airplane Landing Mats; Traction Mats.

GROUP 58

Communication, Detection, and Coherent Radiation Equipment

*NOTE: Excludes oscillator items which should be classified in FSC 5955 or 5963; fiber optic items which should be classified in Group 60; electronic modules as defined under Class 5963; and electrical cable, cord and wire assemblies, harnesses and sets, related to FSG 58 equipment (see FSC 5995). In addition, that name may also appear as an entry in groups other than 58. Each such entry refers to a distinctly different part or assembly, even though the different items have the same name. The listing of the same name in two or more classes indicates that, in one form, the part or assembly covered by the name is applicable to the equipment covered by one class, and in another form is applicable to the equipment covered by another class. For example, the item name CODER, AUDIO FREQUENCY is applicable to two distinctly different assemblies, one of which has an application in cryptologic equipment, covered by class 5810, and the other in radar equipment covered by class 5840. Consequently the name CODER, AUDIO FREQUENCY is an entry under each of the two classes.

When an item identification bears a name which is indexed under more than one class of group 58, or in group 58 and in some other group, the item will be classified in the same class as its next higher assembly in the manner described in the Department of Defense, Defense Integrated Data System (DIDS) Procedures Manual, DoD 4100.39 M.

Also excluded from this group are data transmission and communications equipment such as ter

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APPENDIX B

COSATI CATEGORY LIST (DoD MODIFIED)

05 BEHAVIORAL AND SOCIAL SCIENCES

01 Administration and Management	Accounting, planning, budgeting, operations, public relations, production planning, organization coordination, etc. See also 14 01 Cost Effectiveness and 12 02 Operations Research.
02 Documentation and Information Technology	Library science: acquisition, cataloging, indexing, abstracting, bibliography. Information storage and retrieval systems.
03 Economics	Econometrics, economic history, economic theory, banking and finance, international economic relations, trade and commerce. See also 02 02 Agricultural Economics.
04 History, Law, and Political Science	Theory and practice of government, international relations, politics, law, etc.
05 Human Factors Engineering	Design of equipment with emphasis on optimum utilization by humans. Habitability of work and living space.
06 Humanities	Philosophy, literature, art, music, drama, etc.
07 Linguistics	Study of languages, including phonology, morphology, syntax, and semantics. Mathematical linguistics. Machine translation.
08 Man-Machine Relations	Interaction of man and equipment in terms of subsystem and system performance requirements and evaluation. Encompasses manual controls, information displays, information processing, tactical kinethesis and other human sensory modalities involved in operation of equipment and understanding of personnel subsystems. See also 05 Human Factors Engineering.

(Cont'd on next page)

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APPENDIX B (con't)

05 BEHAVIORAL AND SOCIAL SCIENCES (Cont'd)

09 Personnel Selection, Training, and Evaluation	Recruitment, selection, training, and utilization of personnel. Industrial relations, wages, benefits. Education, teaching aids, teaching methods. Job analysis, career guidance. For physical examinations, see 06 14 Personnel Selection and Maintenance (Medical).
10 Psychology (Individual and Group Behavior)	Mental processes and phenomena such as perception, learning, motivation, intelligence, attitudes, group dynamics, etc. Experimental psychology, including animal behavior; physiological psychology; developmental psychology; social psychology; clinical psychology; educational psychology; military psychology; and parapsychology. For psychiatry, see 06 05 Clinical Medicine.
11 Sociology	Social relations, the functioning of human society, ethnology, criminology, etc.

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06 BIOLOGICAL AND MEDICAL SCIENCES

01 Biochemistry	Studies of the chemical processes which take place in biological systems. Identification of biochemical substances and the methods used for biochemical assay and analysis. For biochemical studies of drugs, see 06 15 Pharmacology. See also 07 03 Organic Chemistry.
02 Bioengineering	Establishment of requirements for, and development of, bioinstrumentation and equipment needed by man in operation of man-machine systems. Includes instrumentation for psychophysiological monitoring and biomedical information handling. Compact, lightweight transducers and transmitter equipment introducing minimum constraint of subject. Man's requirements for displays and controls. Use of body potentials as intrinsic power supplies.
03 Biology	Biological topics not included in other Groups, e.g., botany, zoology, genetics, etc. Animal anatomy, physiology, and pathology. Care and breeding of laboratory animals. For human anatomy and physiology, see 06 16 Physiology. See also 08 01 Biological Oceanography.
04 Bionics	Study of biological processes in order to develop engineering systems.
05 Clinical Medicine	General medicine, medical specialties, and paramedical sciences. Internal medicine, including preventive medicine; pediatrics and geriatrics; dermatology; ophthalmology; psychiatry; dentistry. Includes nursing, first aid, medical technology, physical therapy, and prosthesis. For treatment of injuries resulting from weapons, see 06 21 Weapon Effects. For pharmaceutics, see 06 15 Pharmacology. For veterinary medicine, see 02 05 Animal Husbandry.

(Cont'd on next page)

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APPENDIX B (con't)

06 BIOLOGICAL AND MEDICAL SCIENCES (Cont'd)

06 Environmental Biology	External influences on the biological processes of organisms. Ecology, pesticides, insect vectors, pest control, natural noxious agents, etc. See also 06 19 Stress Physiology.
07 Escape, Rescue, and Survival	Methods and equipment for escape from disabled aircraft, submarines, etc. Rescue equipment, signals, flotation devices, survival kits.
08 Food	Processing, packaging, storage, preparation, and dispensing of food. Kitchen equipment.
09 Hygiene and Sanitation	Personal hygiene. For sanitary engineering, see 13 02 Civil Engineering.
10 Industrial (Occupational) Medicine	Interaction of man and industrial environment. Noise, physical trauma, etc.
11 Life Support	Equipment and techniques for sustaining life in environments where normal respiration is not possible. Systems which provide, as a minimum, respiratory support. Includes closed ecological systems, space suits, diving gear, oxygen masks, etc. For equipment providing protection against such environmental elements as heat, cold, noise, machinery, etc., see 06 17 Protective Equipment. For equipment providing protection against CBR agents, see 15 02 Chemical, Biological and Radiological Warfare.
12 Medical and Hospital Equipment and Supplies	Equipment and supplies for laboratory and field use. See also 06 02 Bioengineering.
13 Microbiology	Studies of microscopic plants and animals. See also 08 01 Biological Oceanography and 15 02 Chemical, Biological, and Radiological Warfare.
14 Personnel Selection and Maintenance (Medical)	Physical standards, examinations, anthropometrics, physical fitness. See also 05 09 Personnel Selection, Training, and Evaluation.

(Cont'd on next page)

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06 BIOLOGICAL AND MEDICAL SCIENCES (Cont'd)

15 Pharmacology	The synthesis, composition, properties, and physiological effects of drugs. Includes psychopharmacology. See also 15 02 Chemical, Biological, and Radiological Warfare.
16 Physiology	Organic processes and phenomena of humans, e.g., growth, aging, metabolism, biological rhythm, healing and repair, sensation, etc. Human anatomy. For animal anatomy and physiology, see 06 03 Biology. For physiological psychology, see 05 10 Psychology. See also 06 19 Stress Physiology.
17 Protective Equipment	Equipment providing protection against such environmental elements as heat, cold, noise, machinery, etc. For equipment providing protection against CBR agents, see 15 02 Chemical, Biological, and Radiological Warfare. For armor, see 19 04 Explosions, Ballistics, and Armor. For equipment and techniques for sustaining life in environments where normal respiration is not possible, see 06 11 Life Support.
18 Radiobiology	Radiation biology. Interaction of biological systems with electromagnetic and particle radiation. Dosimetry, health physics, radiation injury. Prophylaxis and therapy of nuclear radiation sickness and injury.
19 Stress Physiology	Effects of extreme environments or unusual stimulation on biological processes. Physiological effects of motion, gravity, sound, light, heat, magnetism, sensory deprivation, fatigue, etc. For effects of ionizing and particle radiation, see 06 18 Radiobiology.
20 Toxicology	Detection, neutralization, decontamination, physiological effects, etc. of poisonous substances. See also 15 02 Chemical, Biological, and Radiological Warfare.

(Cont'd on next page)

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06 BIOLOGICAL AND MEDICAL SCIENCES (Cont'd)

21 Weapon Effects	Wounds, injuries, or other medical conditions directly resulting from weapons. For effects of CBR weapons, see 15 02 Chemical, Biological, and Radiological Warfare. For effects of nuclear weapons, see 15 06 Nuclear Warfare.

END

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